REMARKS

The Office Action dated July 31, 2008 has been received and carefully noted. The above amendments to the specification and the claims, and the following remarks, are submitted as a full and complete response thereto.

Claim 1 has been amended to more particularly point out and distinctly claim the subject matter of the invention. Claim 2 has been canceled without prejudice or disclaimer. No new matter has been added and no new issues are raised which require further consideration or search. Claims 1 and 3-13 are presently pending.

The Office Action indicated that claims 4, 5, 9, 11 and 12 have been objected to for containing allowable subject matter and would be allowed if amended into independent form. Applicants wish to thank the Examiner for the allowance of these claims. However, claims 1, 3, 6-8, 10 and 13 are respectfully submitted for reconsideration.

The Office Action objected to the disclosure because of minor informalities. In particular, the Office Action indicated that the word "claim" should be removed from the disclosure. Applicants have amended paragraphs 1 and 2 of page 2 and paragraphs 1-4 of page 3 of the specification to remove these references to specific claims. Withdrawal of the objection is kindly requested.

The Office Action rejected claims 1-3, 6-8, 10, and 13 under 35 U.S.C. §102(b) as allegedly anticipated by Yoshino, *et al.* (U.S. Patent No. 5,151,859) ("Yoshino"). The Office Action alleged that Yoshino discloses or suggests every claim feature recited in

claims 1-3, 6-8, 10, and 13. The rejection is respectfully traversed for at least the following reasons.

Claim 1, upon which claims 3-6 are dependent, recites a legged mobile robot having a body, and a plurality of articulated legs each connected to the body such that it moves by driving each leg by an actuator associated therewith. The robot also includes a first joint installed at each leg, and a second joint installed at each leg at a location below the first joint in the gravitational direction. The robot also includes an actuator that drives the second joint which is located at least one of a position same as that of the first joint and a position above the first joint in the gravitational direction. The robot further includes at least one of an output shaft of the actuator that drives the second joint and an output shaft of a transmission element to which an output of the output shaft of the actuator is transmitted, is located coaxially with an axis of the first joint. The second joint is connected to the output shaft located coaxially with the axis of the first joint to be driven through a rod.

Claim 7, upon which claims 9-13 are dependent, recites a legged mobile robot having a body, and a plurality of articulated legs each connected to the body such that it moves by driving each leg by an actuator associated therewith. The robot includes a first joint installed at each leg, a second joint installed at each leg at a location below the first joint in the gravitational direction, and a speed reducer to which an output of the actuator that drives the second joint is transmitted. An input shaft of the speed reducer is located coaxially with an axis of the first joint.

Claim 8 recites a legged mobile robot having a body, and a plurality of articulated legs each connected to the body such that it moves by driving each leg by an actuator associated therewith. The robot includes a first joint installed at each leg, and a second joint installed at each leg at a location below the first joint in the gravitational direction. A link connects the first joint and the second joint. The robot also includes a speed reducer to which an output of the actuator that drives the second joint is transmitted. A base of the speed reducer is located at the link that connects the first joint and the second joint.

As will be discussed below, the teachings of Yoshino fail to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above. The rejection is respectfully traversed for at least the following reasons.

Yoshino discloses a biped walking robot and system for controlling the robot. Referring to FIG. 5, a first joint 10(10') is coupled to a hip joint 12(12'). The motor 40 which drives these joints is illustrated as being positioned near the hip joint. Column 5, lines 44-45 of Yoshino discloses that "this part" (i.e., the motor 40) is located at the same place as the joint 14(14') which is still part of the hip joint and is not lower than the hip joint.

Claim 1 recites that a second joint is below the first joint and that "the actuator that drives the second joint is located at least one of a position same as that of the first joint and a position above the first joint in the gravitational direction." Motor 40 of Yoshino is not used to drive any joint that is lower than those positioned near the motor. The only

joint shown with respect to FIG. 5 is the hip joint 12(12'). Therefore, FIG. 5 fails to disclose an actuator which drives a lower "second" joint, and, additionally, where the actuator is positioned above a higher "first" joint, as recited in claim 1.

In addition to the above noted deficiency of Yoshino with respect to claim 1, FIG. 5 of Yoshino also fails to teach "at least one of an output shaft of the actuator that drives the second joint and an output shaft of a transmission element to which an output of the output shaft of the actuator is transmitted, is located coaxially with an axis of the first joint, and the second joint is connected to the output shaft located coaxially with the axis of the first joint to be driven through a rod", as recited, in part, in independent claim 1. FIG. 5 does not illustrate that the output shaft of the actuator, or, alternatively, the output shaft of the transmission element is located coaxially with an axis of the first joint. Furthermore, FIG. 5 also does not illustrate that the second joint is connected to the output shaft located coaxially with the axis of the first joint to be driven through a rod.

The Office Action also relied on FIG. 3 of Yoshino as allegedly teaching the subject matter recited in claim 1. However, FIG. 3 only illustrates joints of the robot legs and does not illustrate any actuators or motors which drive those joints. Therefore, the illustrations of FIG. 3 fail to disclose any of the features associated with the location of the actuators and/or the location of the output shafts.

Referring to FIG. 6 of Yoshino, similar to FIG. 5, FIG. 6 illustrates one single joint (i.e., the ankle joint 18(18')). The actuators or motors 60 and 70 are both positioned near the ankle joint 18(18'). In this example, the motors/actuators cannot be located

above a higher joint to drive the lower joint because the motors/actuators are already positioned at the lowest positioned joint on the robot leg (i.e., the ankle joint 18(18')). Therefore, FIG. 6 fails to teach an actuator which drives a lower "second" joint but is positioned above a higher "first" joint, as recited in claim 1.

In addition to the above noted deficiencies of Yoshino with respect to claim 1, FIG. 6 of Yoshino also fails to teach "at least one of an output shaft of the actuator that drives the second joint and an output shaft of a transmission element to which an output of the output shaft of the actuator is transmitted, is located coaxially with an axis of the first joint, and the second joint is connected to the output shaft located coaxially with the axis of the first joint to be driven through a rod", as recited, in part, in independent claim 1. FIG. 6 does not disclose that either the output shaft of the actuator or the output shaft of the transmission element is located coaxially with an axis of the first joint. Furthermore, FIG. 6 also does not illustrate that the second joint is connected to the output shaft located coaxially with the axis of the first joint to be driven through a rod.

FIG. 7 is simply a different viewing perspective as the illustration of FIG. 6. Therefore, FIG. 7 of Yoshino also fails to teach the subject matter recited in claim 1 for at least the reasons set forth above with respect to FIG. 6. Therefore, none of the illustrations of FIGS. 3-7 disclose all of the claim recitations of claim 1.

As for the rejection of claim 7, FIGS. 5-7 of Yoshino do not illustrate a speed reducer to which an output of the actuator that drives the second joint is transmitted, where the speed reducer has an "input shaft that is located coaxially with an axis of the

first joint", as recited, in part, in claim 7. As stated above, FIGS. 5-7 illustrate motors and corresponding speed reducers, 32, 42, 52, 64 and 72, which are all located near the corresponding motors 30, 40, 50, 60 and 70, and, which in turn, are also located near the corresponding joints 10, 12, 14, 18 and 20, which receive the force of the motors and the speed reducers (see FIGS. 4-7 of Yoshino). In other words, Yoshino does not disclose "a speed reducer to which an output of the actuator that drives the second joint is transmitted...wherein an input shaft of a speed reducer located coaxially with an axis of the first joint", as recited, in part, in claim 7 (emphasis added).

As for the rejection of claim 8, the claim recitations of claim 8 provide that the position of the "base" of the speed reducer is located at a link between the first and second joints. Yoshino does not illustrate a speed reducer that is located in the same position recited in claim 8. Referring to FIGS. 6 and 7 of Yoshino, the speed reducers 64 and 72 are used to drive the ankle joints 18 and 20. These speed reducers 64 and 72 (including their base parts) are located at the ankle joints 18 and 20 and not at the link 25. In other words, Yoshino does not disclose "a speed reducer to which an output of the actuator that drives the second joint is transmitted...wherein a base of the speed reducer is located at the link that connects the first joint and the second joint", as recited, in part, in claim 8.

Therefore, Applicants submit that Yoshino fails to teach all of the subject matter of independent claims 1, 7 and 8. By virtue of dependency, Yoshino also fails to teach

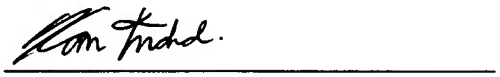
the subject matter of dependent claims 3-6 and 9-13. Withdrawal of the rejection of claims 1, 3, 6-8, 10 and 13 is kindly requested.

For at least the reasons discussed above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1 and 3-13 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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